

## FLUORESCENT PROTEINS

### Abstract

The present invention provides novel engineered derivatives of green fluorescent protein (GFP) which have an amino acid sequence which is modified by amino acid substitution compared with the amino acid sequence of wild type Green Fluorescent Protein. The modified GFPs exhibit enhanced fluorescence relative to wtGFP when expressed in non-homologous cells at temperatures above 30 °C, and when excited at about 490 nm compared to the parent proteins, i.e. wtGFP. An example of a preferred protein is F64L-S175G-E222G-GFP. The modified GFPs provide a means for detecting GFP reporters in mammalian cells at lower levels of expression and/or increased sensitivity relative to wtGFP. This greatly improves the usefulness of fluorescent proteins in studying cellular functions in living cells.